



SAFETY DATA SHEET

1. Ubungan dengan adanya beberapa IDENTIFICATION

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|--|--|
| Product identifier | : Pertamax |
| Other means of identification | : Gasoline 92 |
| Recommended use of the chemical and restrictions on use | : Unleaded fuel designed for gasoline-fueled motor vehicles with compression ratio $10 < r < 11$. Can not be used as diesel engine fuel. |
| Manufacturer | : PT Pertamina (Persero) Jl. Medan Merdeka Timur No. 1A Jakarta Pusat ZIP Code 10110 Phone: 1500-000 Email: pcc@pertamina.com |
| Emergency phone number | : 1500-000 |

2. HAZARD IDENTIFICATION

| | |
|--------------------------------|--|
| Classification | : Flammable liquid, category 1 Skin corrosion/irritation, category 2 Germ cell mutagenicity, category 1B Carcinogenicity, category 1B Reproductive toxicity, category 2 Specific target organ toxicity (STOT) single exposure, category 3 (narcotic effect) Aspiration hazards, category 1 Hazardous to the aquatic environment (acute hazard), category 2 Hazardous to the aquatic environment (long-term hazard), category 2 |
| Signal word | : Danger |
| Hazard statement | : <u>Physical Hazard</u> H224 – Extremely flammable liquid and vapor <u>Health Hazard</u> H304 – May be fatal if swallowed and enters airways H315 – Causes skin irritation H336 – May cause drowsiness or dizziness H340 – May cause genetic defects H350 – May cause cancer H361 – Suspected of damaging the unborn child <u>Environmental Hazard</u> H401 – Toxic to aquatic life H411 – Toxic to aquatic life with long lasting effects |
| Precautionary statement | : <u>Prevention</u> P201 – Obtain special instructions before use P202 – Do not handle until all safety precautions have been read and understood P210 – Keep away from heat/sparks/open flames/hot surfaces. - No smoking. |



SAFETY DATA SHEET

2. HAZARD IDENTIFICATION

- P233 –Keep container tightly closed.
- P240 –Ground/bond container and receiving equipment.
- P241 –Use explosion-proof electrical/ventilating/lighting/equipment.
- P242 - Use only non-sparking tools.
- P243 –Take precautionary measures against static discharge.
- P261 –Avoid breathing dust/fume/gas/mist/vapor/spray.
- P271 –Use only outdoors or in a well-ventilated area.
- P273 –Avoid release to the environment.
- P280 –Wear protective gloves/protective clothing/eye protection/face protection.

Response

- P301 + P310 –IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
- P302 + P352 –IF ON SKIN: Wash with plenty of soap and water.
- P304 + P340 –IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P308 + P313 –IF exposed or concerned: Get medical advice/attention.
- P331 –Do NOT induce vomiting.
- P332 + P313 –If skin irritation occurs: Get medical advice/attention.
- P362 + P364 –Take off contaminated clothing and wash it before reuse.
- P370 + P378 –In case of fire: Use sand, dry chemical, or foam for extinction.
- P391 –Collect spillage.

Storage

- P403 + P233 + P235 –Store in a well-ventilated place. Keep container tightly closed. Keep cool.
- P405 –Store locked up.

Disposal

- P501 -Dispose of contents/container according to valid regulation.

Pictogram

:



Other hazards which do not result in classification

:

Liquid evaporates quickly and can ignite leading to a flash fire or an explosion in a confined space. This material is a static accumulator. Even with proper grounding and bonding, this material can accumulate electrostatic charge.



SAFETY DATA SHEET

2. HAZARD IDENTIFICATION

If sufficient charge is allowed to accumulate, electrostatic discharge and ignition of flammable air-vapor mixtures can occur. Slightly irritating to respiratory system. This product contains benzene which may cause leukaemia (AML-acute myolegenous leukaemia). May cause MDS (Myelodysplastic Syndrome).

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | CAS No. | Concentration (%) |
|-------------------------------------|------------|-------------------|
| Gasoline, low boiling point naphtha | 86290-81-5 | ≥ 99 |
| Benzene | 71-43-2 | < 1 |
| Additives | - | <0.1 |

4. FIRST AID MEASURES

Necessary description

- In case of eye contact** : Flush eyes with plenty of water. Remove contact lenses. If irritation occurs, refer to a doctor/physician.
- In case of skin contact** : Wash the contaminated skin with water and soap. Remove clothes. Wash the contaminated clothing before reuse. Get medical advice immediately if further irritation occurs.
- If inhaled** : Keep away from exposure. Move victim to fresh air and keep at rest in comfortable position for breathing. Get medical advice immediately if further irritation and headache persist.
- If swallowed** : If victim ingests more than 0.5 liter, give 1-2 glass of water immediately. If emergency condition occurs, seek for medical advice.

Do not give anything through mouth that can induce nausea or vomiting.

Swallowed substance may be absorbed to lungs and can increase risk of chemical pneumonitis, in this case, appropriate treatment is needed.

Most important symptoms/effects

: Skin irritation signs and symptoms may include a burning, sensation, redness, or swelling. Eye irritation signs and symptoms may include a burning, sensation and a temporary eye irritation. If material enters lungs, signs and symptoms may include coughing, choking, wheezing, difficulty in breathing, chest congestion, short breath, and/or fever. The onset of respiratory symptoms may be delayed for several hours after exposure. Breathing of high vapor concentrations may cause central nervous system (CNS) depression resulting in dizziness, light-headedness, headache, nausea, and loss of coordination. Continued inhalation may result in unconsciousness and death. Auditory system effects may include temporary hearing loss and/or ringing in the ears.

Indication that need

: Treat symptomatically



SAFETY DATA SHEET

4. FIRST AID MEASURES

immediate medical attention and special treatment

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Carbon dioxide (CO₂), dry chemical powder and foam

Unsuitable extinguishing media : High pressure water (water jet)

Specific hazards

- **Other explosion and fire hazards** : It occurs at unprotected storage tank around the fire location

Flash point°C : -43

Flammability value : LEL 1.4%, UEL 7.6%

Hazardous chemical composition : Carbon monoxide (CO)

Special protective actions for fire fighters

- a. **Carbon dioxide (CO₂)** : Spray to the origin of fire in the same direction with the wind.
 - b. **Dry chemical powder** : Spray to the origin of fire in the same direction with the wind.
 - c. **Foam** : If the fire is in a container, spray the foam to inner wall of the container (not to the ignited liquid) in the same direction with the wind. If the fire occurs because spill, spray to the origin of fire in the same direction with wind until all the fire covered. Do not dispose the spill to the clean water source (drinking water).
- Special protective equipment for fire-fighter** : If fire occurs in limited/indoor/closed area, fire fighter operator must wear Self-Contained Breathing Apparatus(SCBA).

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures : Keep away from fire source. Avoid direct contact with skin, eye, and clothes. Evacuate personnel to the safe place. Beware of vapor which accumulates to form explosive concentration. Vapor can accumulate in low areas. Use personal protective equipment. Ensure adequate ventilation.

Environmental precautions : Prevent oil spill goes into drainage, sewage system, and soil.

Procedures : Report spill according to the valid system and procedures. If spill can go into drainage or streams, do immediate report to the authority.



SAFETY DATA SHEET

6. ACCIDENTAL RELEASE MEASURES

Methods and materials for containment and cleaning up : Do oil spill control with oil spill kit (absorbents: sawdust, sorbent pad/pillow, etc, and other fire retardant material). Clean and dispose cleaned material in the right waste disposal according to valid regulations. Prevent further spill and leakage if possible and safe to do.

7. HANDLING AND STORAGE

Precautions for safe handling : Do not suck Pertamax Plus with mouth directly. This product can not be used as solvent or abstergent. Equipment used must be explosion proof and do not spray. If it is handled in open air area, avoid the occurrence of fire sparks. Portable container must pass feasibility test. When filling process is done, container must be placed on the soil surface while the cover must be still patched to the container in order to avoid static electricity. Do not smoke, eat , and drink while handling the product. Avoid skin and eye contact. Wear personal protective equipment, see section 8.

Conditions for safe storage (including any incompatibility) : Storage must be grounded and bonded. It also must be completed with self-closing valves, pressure vacuum bungs and flame trap. Keep away from flammable goods, fire, electrical, or other heat sources. Store in a well-ventilated place. Keep container tightly closed. Keep cool. Opened container must be re-sealed and in standing position to avoid any leakage. Be aware of precautions label. Do not smoke.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

- **Exposure limit** : TWA 300 ppm
STEL 500 ppm
- **Biological exposure indicator** : Not available

Appropriate engineering control

- **Ventilation** : If Pertamax Plus is used in closed container, ventilation is needed. Ventilation and tools must be explosionproof.

Individual protection measures

- **Eye and face protection** : Wear eye protection (chemical type goggles).

**SAFETY DATA SHEET****8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

- **Skin protection** : Wear protective gloves (leather or PVC).
- **Respiratory protection** : Wear respiratory protection with appropriate filter when there is accumulated vapor and excessive concentration which passes the TLV.
- **Hygiene practices** : Wash hand thoroughly after handling.
Do not eat, drink, or smoke when using this product.
Do not smoke while using this product.

9. PHYSICAL AND CHEMICAL PROPERTIES AND SAFETY CHARACTERISTICS

| Characteristic | Result |
|--|----------------------------------|
| Organoleptic (physical appearance, color, etc.) | : Liquid, blue, clear and bright |
| Odor | : Hydrocarbon |
| Odor Threshold | : Not available |
| pH | : Not available |
| Melting point/freezing point | : Not applicable |
| Initial boiling point/boiling range | : Not available |
| Flammability | : Flammable |
| Flash point | : -43°C |
| Evaporation rate | : Not available |
| Flammability limit | : LEL 1.4% - UEL 7.6% |
| Vapor pressure | : 45 - 60 kPa |
| Vapor density | : Not available |
| Relative density | : Not available |
| Solubility | |
| • Water solubility | : Not soluble |
| • Other solubility | : Not available |
| Partition coefficient n-octanol/water (log value) | : Not available |
| Auto-ignition temperature | : Not available |
| Decomposition temperature | : Not available |
| Viscosity | : Not available |

10. STABILITY AND REACTIVITY

- Reactivity** : Hazardous substances polymerisation does not occur.
- Chemical stability** : Stable.
- Possibility of hazardous reactions** : No hazardous reaction in normal condition.
- Conditions to avoid** : Heat, fire sparks, flame, or condition that induce electrostatic charge.
- Incompatible materials** : Halogen, strong acid, strong base dan strong oxidizer.
- Hazardous decomposition products** : Carbon monoxide (CO).



SAFETY DATA SHEET

11. TOXICOLOGICAL INFORMATION

Comprehensive toxicological/health information

- **Acute toxicity** : Vapor or mist may induce respiratory irritation
- **Skin corrosion/irritation** : No data available. Suspected that it may cause mild irritation according to compound or product which has similar structure or composition.
- **Serious eye damage/irritation** : No data available. Suspected that it may not cause serious damage but cause mild irritation according to compound or product which has similar structure or composition.
- **Respiratory or skin sensitization** : No data available. Suspected that it may not cause respiratory/skin sensitization according to compound or product which has similar structure or composition.
- **Germ cell mutagenicity** : No data available. Suspected that it is not mutagen according to compound or product which has similar structure or composition.
- **Carcinogenicity** : No data available. Suspected that it is not carcinogen according to compound or product which has similar structure or composition.
- **Reproductive toxicity** : No data available. Suspected that it is not reproductive toxicant according to compound or product which has similar structure or composition.
- **STOT-single exposure** : No data available. Suspected that it may cause narcotic effect according to compound or product which has similar structure or composition.
- **STOT-repeated exposure** : No data available. Suspected that it is not toxic to specific organ after repeated exposure according to compound or product which has similar structure or composition.
- **Aspiration hazards** : No data available but this product may cause death if swallowed or enters the airway according to compound or product which has similar structure or composition.

Likely routes exposure information : Inhaled, swallowed, skin contact, and eye contact.

Symptoms related to the physical, chemical, and toxicological characteristics : Skin irritation signs and symptoms may include a burning, sensation, redness, or swelling. Eye irritation signs and symptoms may include a burning sensation and a temporary eye irritation. If material enters lungs, signs and symptoms may include coughing, choking, wheezing, difficulty in breathing, chest congestion, short breath, and/or fever, the onset of respiratory symptoms may be delayed for several hours after exposure.

Delayed and immediate effects, and also chronic effects from both short or long term exposure : May cause liver and kidney tumor in testing animal with concentration > 3000 ppm. Breathing of high vapor concentrations may cause central nervous system (CNS) depression resulting in dizziness, light-headedness, headache, nausea, and loss of coordination. Continued inhalation may result in unconsciousness and death. Auditory system effects may include temporary hearing loss and/or ringing in the ears.



SAFETY DATA SHEET

11. TOXICOLOGICAL INFORMATION

- Numerical measure of toxicity** : No data available. Further testing has not been done.
- Interative effects** : No data available. Further testing has not been done.
- Where specific chemical data are not available** : No data available. Further testing has not been done.
- Mixture** : No data available. Further testing has not been done.
- Mixture vs. Ingredient information** : No data available. Further testing has not been done.
- Other in formation** : Laboratorytesting by American Petroleum Institute (API) using animal showd that high gasoline vapor and long term exposure may cause kidney damage and cancer also liver cancer. Effects on reproductive system is not proven. Low repeated benzene exposure may cause blood problem in human like anaemia and leukaemia. Long term hexane exposuremay cause nervous system damage like extremities numbness and paralyze. For more detail information, look to section 2 and 3.

12. ECOLOGICAL INFORMATION

- Ecotoxicity** : Soil seepage may cause soil water contamination or aquifer.
- Persistence and degradability** : No data available. Further testing has not been done.
- Bioaccumulation potential** : No data available. Detailed toxic effects is related to concentration nominal value. Further testing has not been done.
- Mobility in soil** : No data available. Further testing has not been done.
- Other adverse effects** : No data available. Further testing has not been done.

13. DISPOSAL CONSIDERATION

- Disposal methods** : May be burned with incinerator according to the valid regulation.

**Law information: this product sludge waste is classified as hazardous waste (except it is not proven after TCLP (Toxicity Characteristic Leaching Procedure) testing), so that the disposal must follow valid provision.*

14. TRANSPORT INFORMATION

USA DOT

- UN Number** : UN 1203
- UN proper shipping name** : Gasoline
- Transport hazard class(es)** : 3
- Packing group (if available)** : PG II
- Environmental hazard** : -
- Special precautions for** : -



SAFETY DATA SHEET

14. TRANSPORT INFORMATION

user(UN Model Regulation)

RID / ADR

UN Number : UN 1203
UN proper shipping name : Gasoline
Transport hazard class(es) : 3
Packing group (if available) : -
Environmental hazard : -
Special precautions for user : -

IMO

UN Number : UN 1203
UN proper shipping name : Gasoline
Transport hazard class(es) : 3
Packing group (if available) : PG 11
Environmental hazard : -
Special precautions for user : -

ICAO / IATA

UN Number : UN 1203
UN proper shipping name : Gasoline
Transport hazard class(es) : 3
Packing group (if available) : PG II
Environmental hazard : -
Special precautions for user : -

15. REGULATORY INFORMATION

Safety, health, and environmental regulation (specific for the product in question) : - Peraturan Menteri Perindustrian Nomor 23/M-IND/PER/4/2013 tentang Perubahan Atas Peraturan Menteri Perindustrian Nomor 87/M-IND/PER/9/2009 Tentang Sistem Harmonisasi Global Klasifikasi dan Label pada Bahan Kimia
- Peraturan Direktur Jenderal Basis Industri Manufaktur Nomor 04/BIM/PER/1/2014 tentang Petunjuk Teknis dan Petunjuk Pengawasan Pelaksanaan Sistem Harmonisasi Global dan Klasifikasi dan Label
- Peraturan Pemerintah Republik Indonesia Nomor 74 Tahun 2001 Tentang Pengelolaan Bahan Berbahaya dan Beracun Presiden Republik Indonesia
- Keputusan Menteri Tenaga Kerja No Kep-187/Men/1999 tentang Pengendalian Bahan Kimia Berbahaya
- Peraturan Menteri Kesehatan Republik Indonesia Nomor 70 Tahun 2016 tentang Standar dan Persyaratan Kesehatan Lingkungan Kerja Industri
- ACGIH®. 2016. TLVs® and BEIs®



SAFETY DATA SHEET

16. OTHER INFORMATION

| | | |
|---|---|--|
| Composing date | : | |
| Revision date | : | March 2017 |
| Key/legend or acronym used in the SDS | : | ACGIH® – The American Conference of Governmental Industrial Hygienists ADR – European Agreement concerning the International Carriage of Dangerous Goods by Road ASTM – American Society for Testing and Materials BEIs® – Biological Exposure Indices CAS No. - Chemical Abstract Service Registry Number IATA – The International Air Transport Association ICAO – The International Civil Aviation Organization IMO – The International Maritime Organization PG – Packaging Group RID – Regulation concerning the International Carriage of Dangerous Goods by Rail STEL – Short-Term Exposure Limit UN – United Nations USA DOT – United States Department of Transportation TLVs® – The Threshold Limit Values TWA – Time Weighted Average |
| Key literature references and sources for data used in the SDS | : | - |

Disclaimer

The information is composed based on current knowledge and intended to describe safety, health, and environment hazard of the product. Therefore, it should not be construed as guarantee any specific property of the product. All risks while using this product is the user's responsibility. It is not allowed to make change of this document, except there is legal consent.